

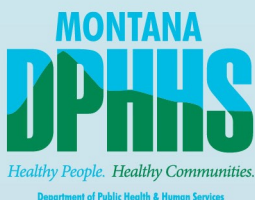
Quality Improvement Report

Report Highlights:

- ◇ Recent research related to patients living with asthma, including:
 - Asthma and subfertility;
 - Depression in adults with asthma;
 - Preventing asthma exacerbations; and
 - Health risks for patients with asthma.
- ◇ Information about new EPA recommendations for multifamily housing.
- ◇ Program updates and upcoming educational opportunities.

Montana Asthma Control Program

1400 E Broadway
Helena, Montana 59620-2951
dphhs.mt.gov/asthma



News

The Montana Department of Public Health and Human Services (MT DPHHS) has a new communication tool called **“Health in the 406”** to provide information on a variety of wellness topics. It is designed to raise awareness of issues that impact the daily lives of Montanans.

- To subscribe, visit healthinthe406.mt.gov.

May is Asthma Awareness Month! Click [here](#) for more information and resources.

- Air Quality Awareness Week is May 2-6, 2016.
- World Asthma Day is May 3, 2016.

Research Updates

Depression and Anxiety in Adults with Asthma

Han, Y., Forno, E., Marsland, A., Miller, G., & Celedon, J. (2016). Depression, asthma, and bronchodilator response in a nationwide study of US adults. *The Journal of Allergy and Clinical Immunology: In Practice*, 4 (1), 68-73.

Researchers examined the association between depressive symptoms and asthma or bronchodilator response (BDR) in adults. Methods included a cross-sectional study of 20,272 adults aged 20 to 79 years from 2007-2012. Depression symptoms were associated with asthma in adults, and major depression was found to be associated with reduced BDR. Anxiety was not associated with asthma or BDR.

Asthma and Fertility

Gade, E., Thomsen, S., Lindenberg, S., & Backer, V. (2016). Fertility outcomes in asthma: A clinical study of 245 women with unexplained infertility. *European Respiratory Journal*. DOI:10.1183/13993003.01389-2015.

In this study, 245 women experiencing unexplained infertility were given questionnaires and allergy and asthma testing while participating in fertility treatment. The likelihood of becoming pregnant was lower in women with asthma (median total time to pregnancy 55.6 months) than women without (32.3 months). Increasing age also reduced chances of conceiving, especially among women with asthma. The causal relationship between subfertility and asthma is still not clear.

Health Risks for Patients Living with Asthma

Shingles

Note: EPR-3 Guidelines emphasize the need to vaccinate patients with asthma against the flu and pneumococcal infections to prevent adverse asthma-related events.

Kwon, J.J., Bang, D.W., Kim, E.N., Wi, C...& Juhn, Y.J. (2015). Asthma as a risk factor for zoster in adults: A population-based case-control study. *Journal of Allergy and Clinical Immunology*. DOI:10.1016/j.jaci.2015.10.032

Researchers had earlier identified an increased risk of herpes zoster (shingles) in children with asthma, and conducted further research to learn more about adults with asthma. The study was a population-based case-control study. A total of 371 zoster cases were enrolled along with 742 matched control subjects. 23% of zoster cases had a history of asthma, versus 15% of control subjects. There was a significant association between history of asthma and risk of zoster. Researchers recommend considering the shingles vaccine for adults with asthma aged 50+ years.

Abdominal aortic aneurysm (AAA)

Liu, C., Wemmellund, H., Wang, Y., Liado, M...&Shi, G. (2016). Asthma associates with human abdominal aortic aneurysm and rupture. *Arteriosclerosis, Thrombosis, and Vascular Biology*. DOI:10.1161/atvbaha.115.306497

Researchers used a large case-control study to establish a link between allergic asthma and AAA in patients over 50. Data was analyzed from the Danish National Registry of Patients on all patients with ruptured AAA from 1996 to 2012. Asthma diagnosed less than a year of 6 months before the index date increased AAA rupture risk; use of bronchodilators increased risk of AAA rupture from ever use to within 90 days from index date; and having a prescription for anti-asthma drugs was associated with increased risk for AAA rupture. Study authors suggest clinical implications include screening for AAA when it isn't otherwise routinely performed in older patients, and monitoring patients with AAA closely for signs of growth.

Systemic corticosteroid (SCS) overuse

Note: EPR-3 Guidelines highlight the risks of adverse effects with SCS overuse, and state at every opportunity providers should consider minimizing SCS use.

Lefebvre, P., Duh, M.S., Lafeuille, M., Gozalo, L...&Dala, A.A. (2015). Acute and chronic systemic corticosteroid-related complications in patients with severe asthma. *The Journal of Allergy and Clinical Immunology*, 136 (6), 1488-1495.

Researchers evaluated the risk of SCS-related complications and quantify the association health care costs and resource use in patients with severe asthma by conducting a longitudinal, open-cohort, observational study using health insurance claims data from 6 U.S. states. Patients were 12 years old or older with 2 or more asthma diagnoses and had more than 6 months of continuous SCS use; in total, 3,628 patients were included. A significant dose-response relationship was identified between chronic SCS use and risk of SCS-related complications in patients with severe asthma.

SCS complications can include "osteoporosis, fractures, susceptibility to infections, obesity, symptomatic coronary artery disease, avascular necrosis, stroke, cataract, glucose metabolism changes, and skin thinning" (p.1488).

Preventing Asthma Exacerbations

Note: The EPR-3 Guidelines state that providers should not underestimate the severity of an exacerbation. Severe exacerbations can be lethal, and can occur in patients with any level of asthma severity.

Hatoun, J., Bair-Merritt, M., Cabral, H., & Moses, J. (2016). Increasing medication possession at discharge for patients with asthma: The meds-in-hand project. *Pediatrics*, 137 (3). DOI:10.1542/peds.2015-0461

Researchers were part of a multidisciplinary quality improvement team that chose to perform 3 plan-do-study-act cycles over 2 years while tracking the proportion of patients admitted with asthma discharged with meds in hand (long-term controller medication). Analysis of insurance data was conducted with a convenience sample of Medicaid-insured patients. Patients discharged with meds in hand had lower odds of all-cause re-presentation to the emergency department within 30 days of discharge, compared with patients discharged with usual care. Patients received medication through the creation of a medication delivery service, and patients with meds in hand increased from 0% to over 75%.

Teach, S.J., Gill, M.A., Togia, A., Sorkness, C.A...&Szefer, S.J. (2015). Preseasonal treatment with either omalizumab or an inhaled corticosteroid boost to prevent fall asthma exacerbations. *The Journal of Allergy and Clinical Immunology*, 136 (6), 1476-1485.

Researchers compared omalizumab with placebo and omalizumab with ICS boost in regards to effect on exacerbations in a 3-arm, randomized, double-blind, double-placebo controlled, multicenter clinical trial. Treatments were initiated 4 to 6 weeks before the start of the school year. Participants were aged 6 to 17 years, lived in an inner-city environment, and had had 1 or more recent exacerbations. Researchers concluded that adding omalizumab before return to school to ongoing guidelines-based care among inner-city children reduces fall asthma exacerbations. This was especially true for children who had had a recent exacerbation.



New EPA Guidelines for Multifamily Building Upgrades

The U.S. Environmental Protection Agency (EPA) has released new voluntary guidance on renovating, remodeling, or undertaking energy retrofits in multifamily buildings. The recommendations can help you take immediate steps to protect the health of workers and occupants involved in these housing projects. Learn more [here](#) about topics such as:

- Managing pollutants, such as secondhand smoke, that can migrate from unit to unit;
- Improving ventilation; and
- Controlling moisture that can lead to mold.

The CDC Agency for Toxic Substances and Disease Registry (ATSDR) released a statement in February 2016 about the health risks of formaldehyde in laminate flooring. One risk, aside from cancer, is increased symptoms and other respiratory issues for people with asthma and COPD. See the statement [here](#).

For more information, contact:

asthmainfo@mt.gov

Jessie Fernandes, MPH, CPH
Program Manager
(406) 444-9155
jfernandes@mt.gov

BJ Biskupiak
Program Specialist
(406) 444-0955
wbiskupiak@mt.gov

Anna von Gohren, MS, CHES
Quality Improvement Coordinator
(406) 444-7304
avongohren@mt.gov

Upcoming Events

Hypertension Workshop: Primary Care Taking the Lead in Successful Hypertension Management

April 8, 2016
Holiday Inn Downtown, Helena MT
For more information, email Marilyn McLauri at
mmclauri@mt.gov

Breastfeeding Learning Collaborative

April 25-27, 2016
Fairmont Hot Springs
For more information and registration, visit
<http://www.umt.edu/sell/cps/blc/>

Montana Asthma Control Program Spring Webinar: Culture Competency: A Focus on American Indians

May 13, 2016 (online)
For more information, please email Anna von Gohren at
avongohren@mt.gov

Montana Asthma Advisory Group meeting

May 13, 2016
Crowne Plaza, Billings, MT
For more information, please email Jessie Fernandes at
jfernandes@mt.gov

Review Course for Certified Asthma Educator Exam

May 20-21, 2016
Bozeman, MT
For more information and registration, visit
www.umt.edu/sell/cps/asthma

Contact the MACP to utilize our **lending library** of study materials and **connect with a mentor** to prepare for the exam review course in May 2016, and ask about a **scholarship** to take the exam after attending the course.

PROGRAM UPDATES

The Montana Asthma Control Program can now support quality improvement projects related to providing guidelines-based care to primary care facilities as well as emergency departments.

Contact Anna with the MACP about applying for a grant to support a quality improvement project in your healthcare facility to impact your patients living with asthma.

**Thank you for another great
Big Sky Pulmonary Conference!**

**We hope to see you again
next year.**

Online Resources

dphhs.mt.gov/asthma

- Montana Asthma Control Program State Asthma Plan and Strategic Evaluation Plan
- Reports on the burden of asthma and environmental asthma triggers in Montana
- Archived asthma-related webinars with free CEUs
- Archived surveillance reports on asthma-related subjects
- Resources for health care facilities, asthma educators, schools and school nurses, coaches, day care providers, and people living with asthma